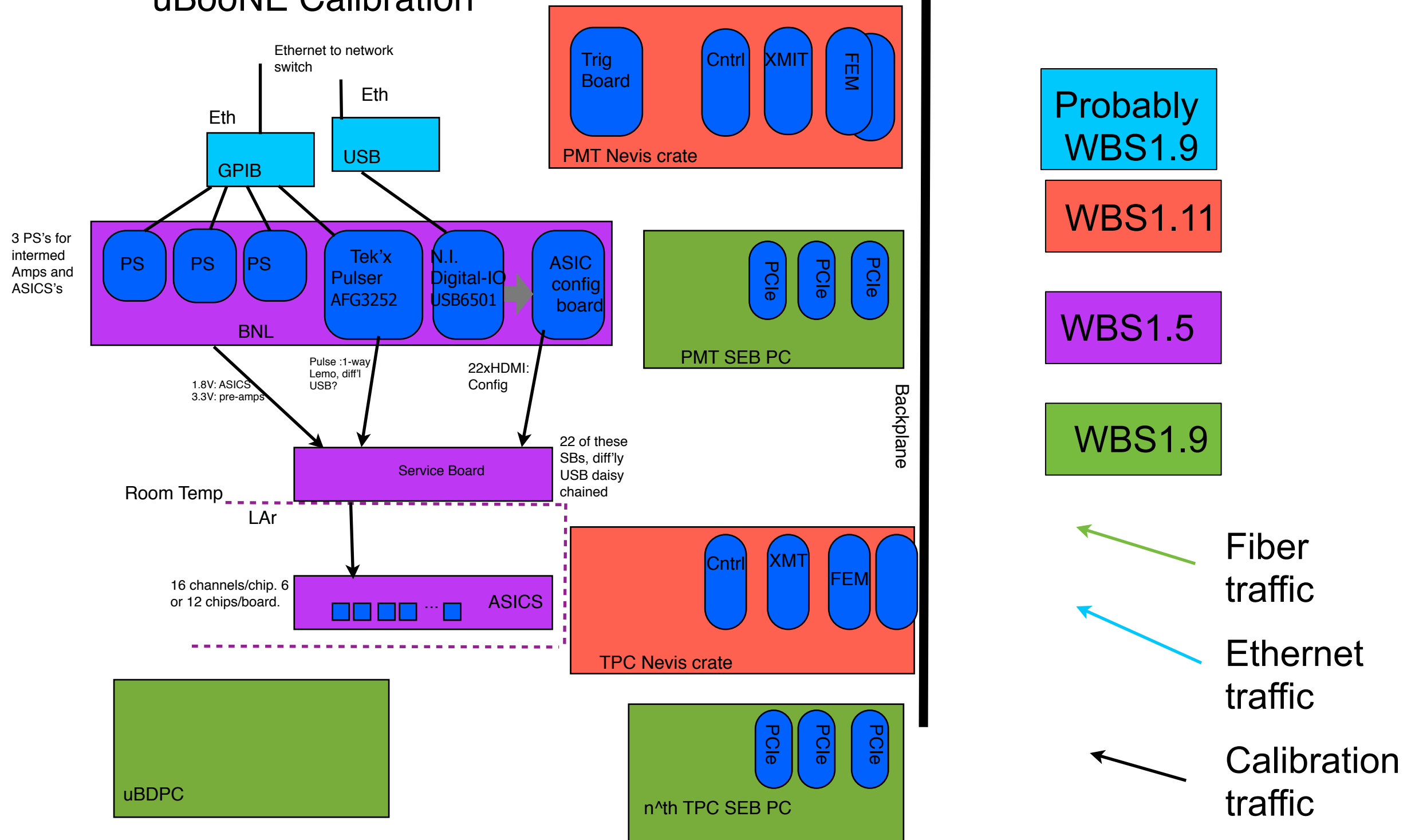
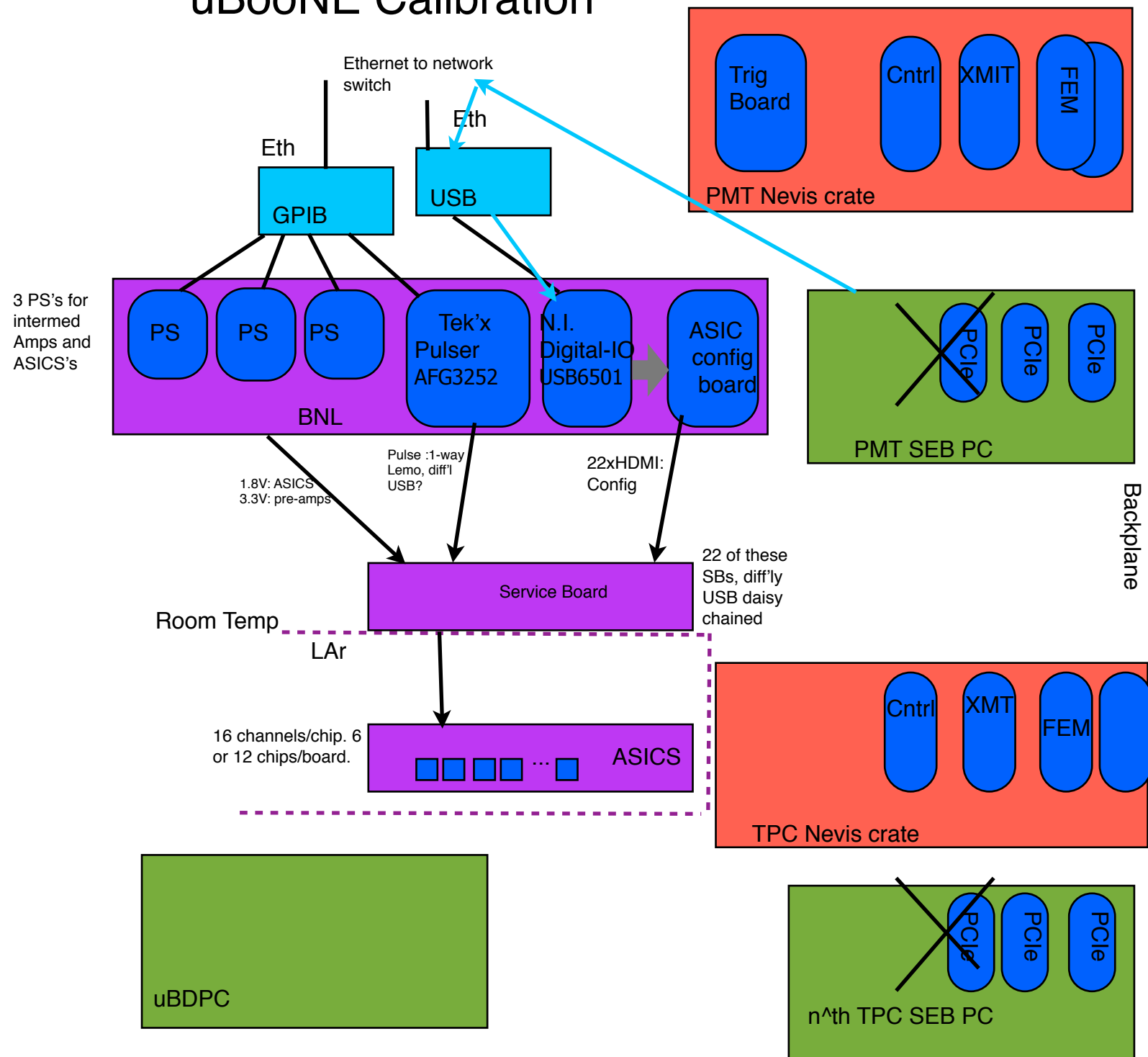


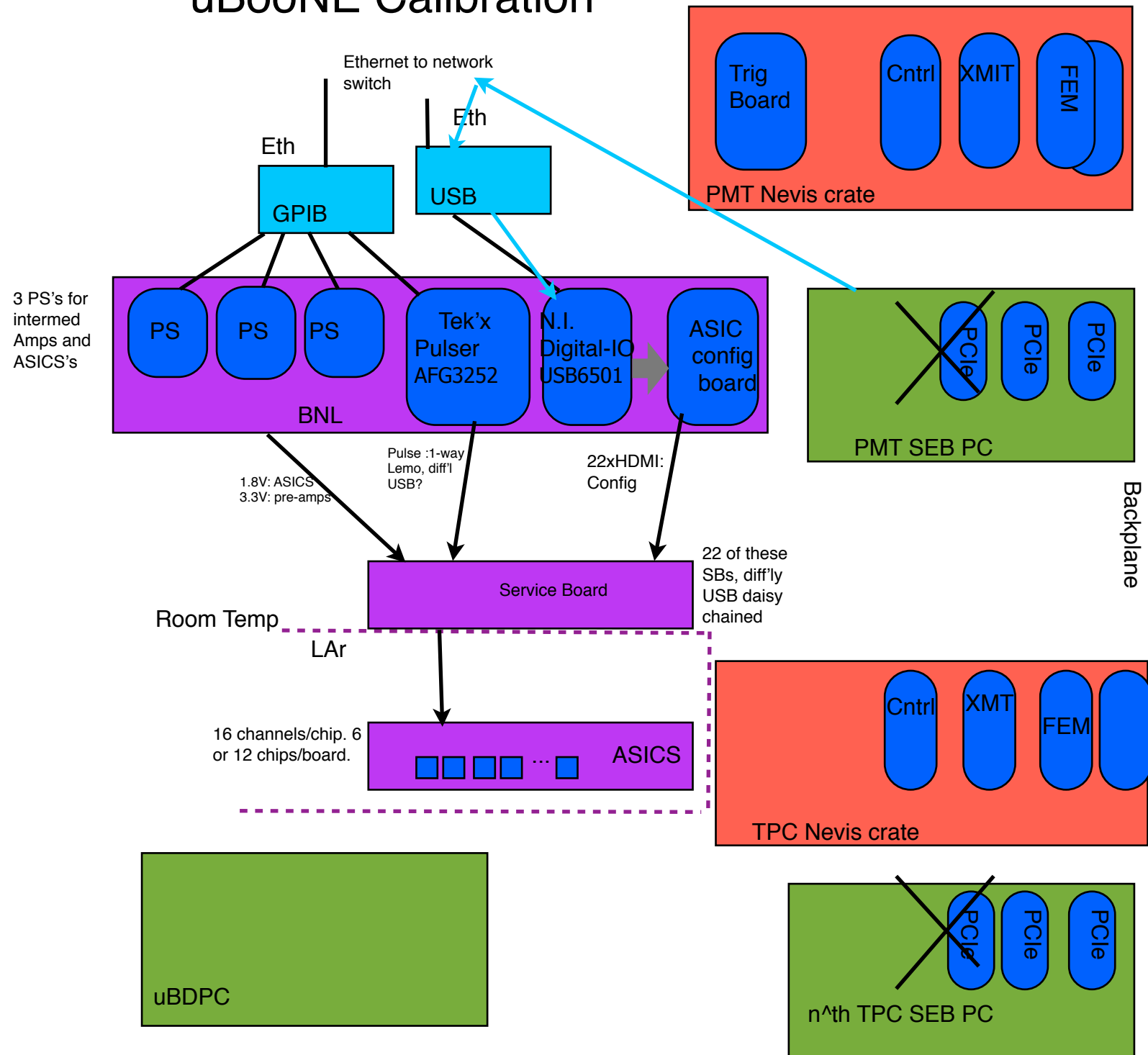
uBooNE Calibration



uBooNE Calibration

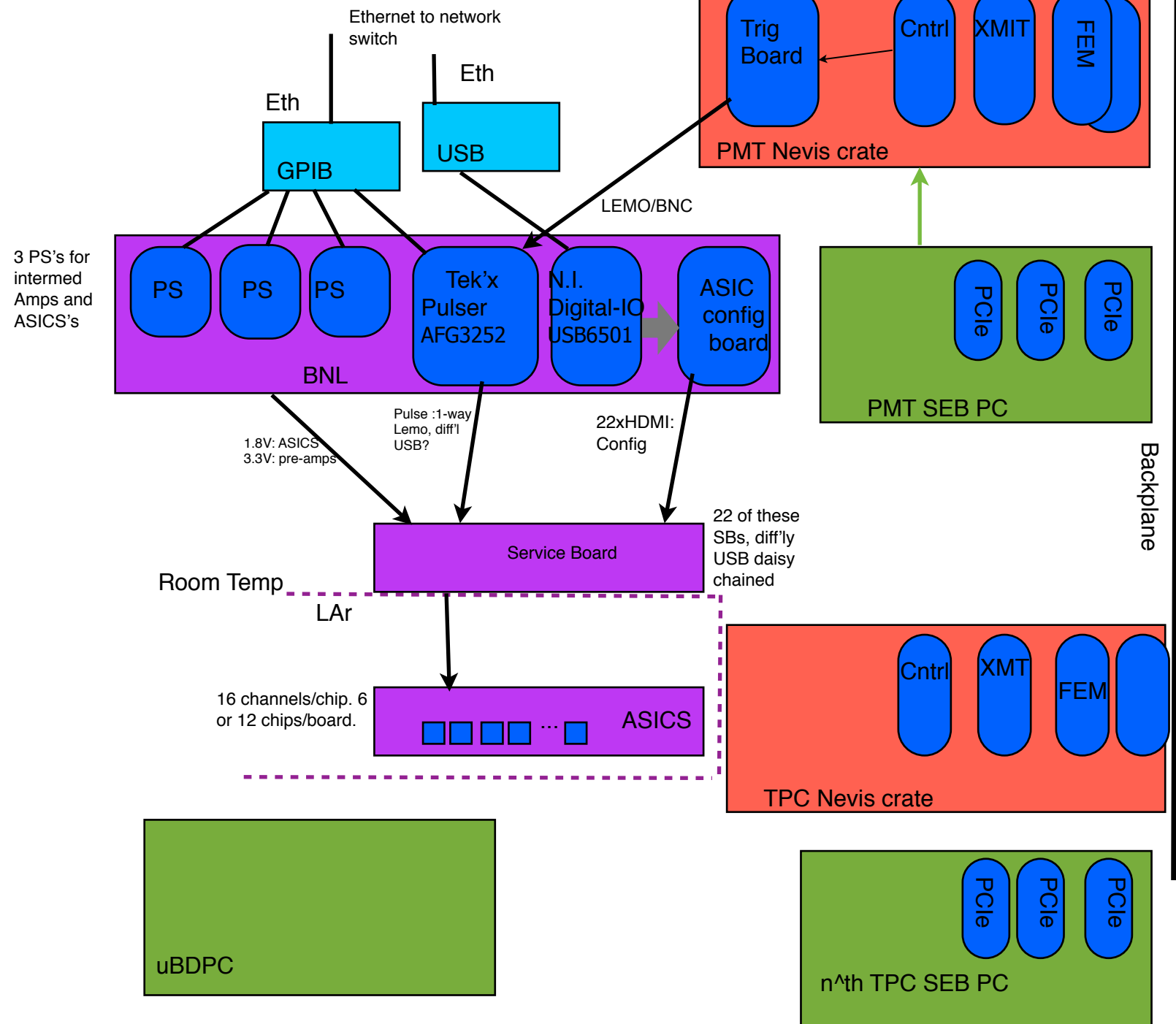


uBooNE Calibration

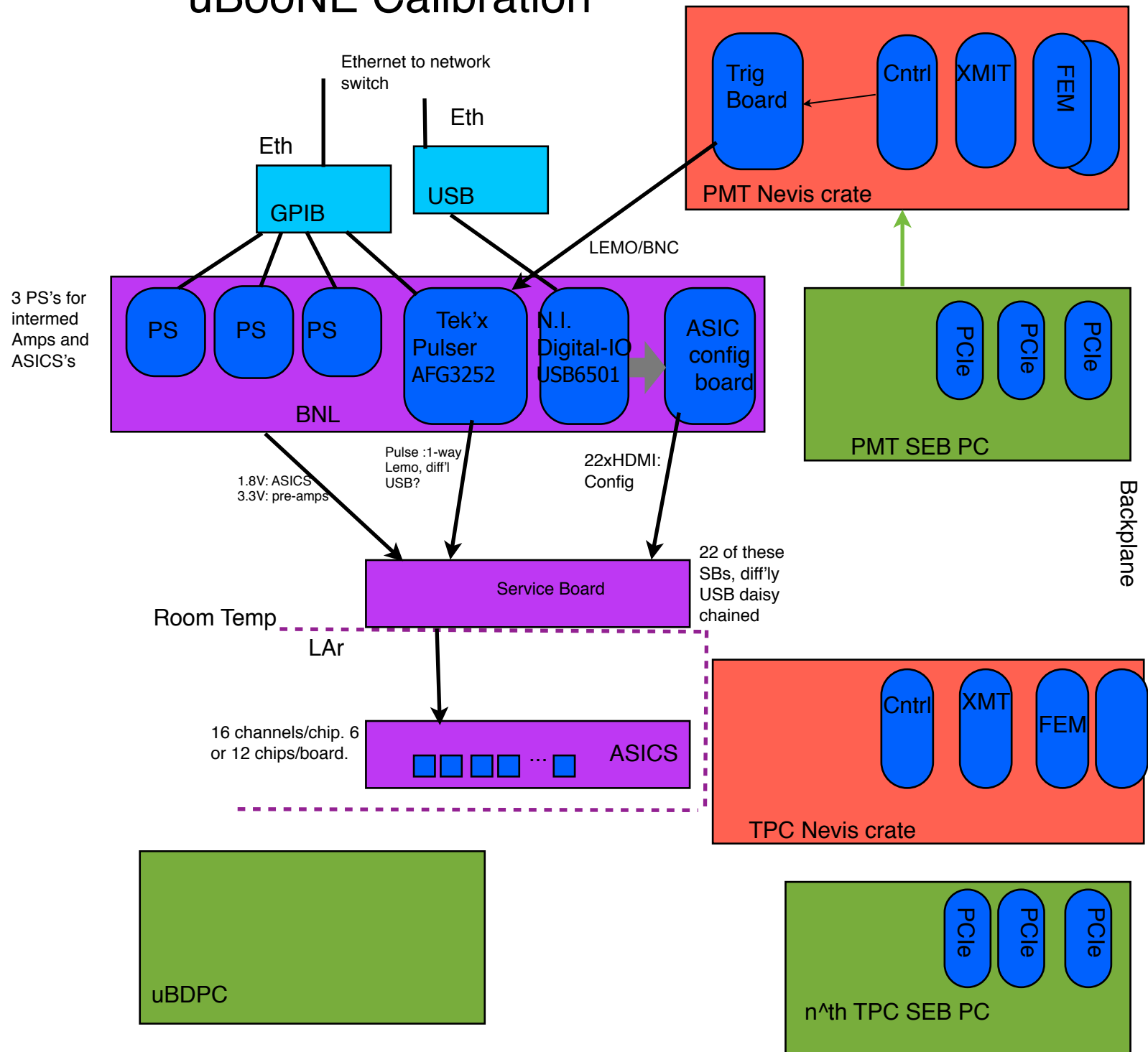


- 1.) uBDPC connects to all SEB PCs
- 2.) uBDPC tells PMTSEBPC we're doing a calibration run. Among other things, suspend the Supernova thread.
- 3.) PMTSEBPC configures ASICs through NI digital IO unit and ASIC config board, service board (peaking time, etc).
- 4.) PMTSEBPC configures Tektronix AFG3252 for pulse height, rise/fall time, pulse duration, trigger mode etc.
- 5-6.) Initialize, Setup TPCSEBPC Controller
- 7-8.) load SEBPC XMIT filepaths and parameters.
- 9-10.) load FEM FPGA , FEM parameters

uBooNE Calibration



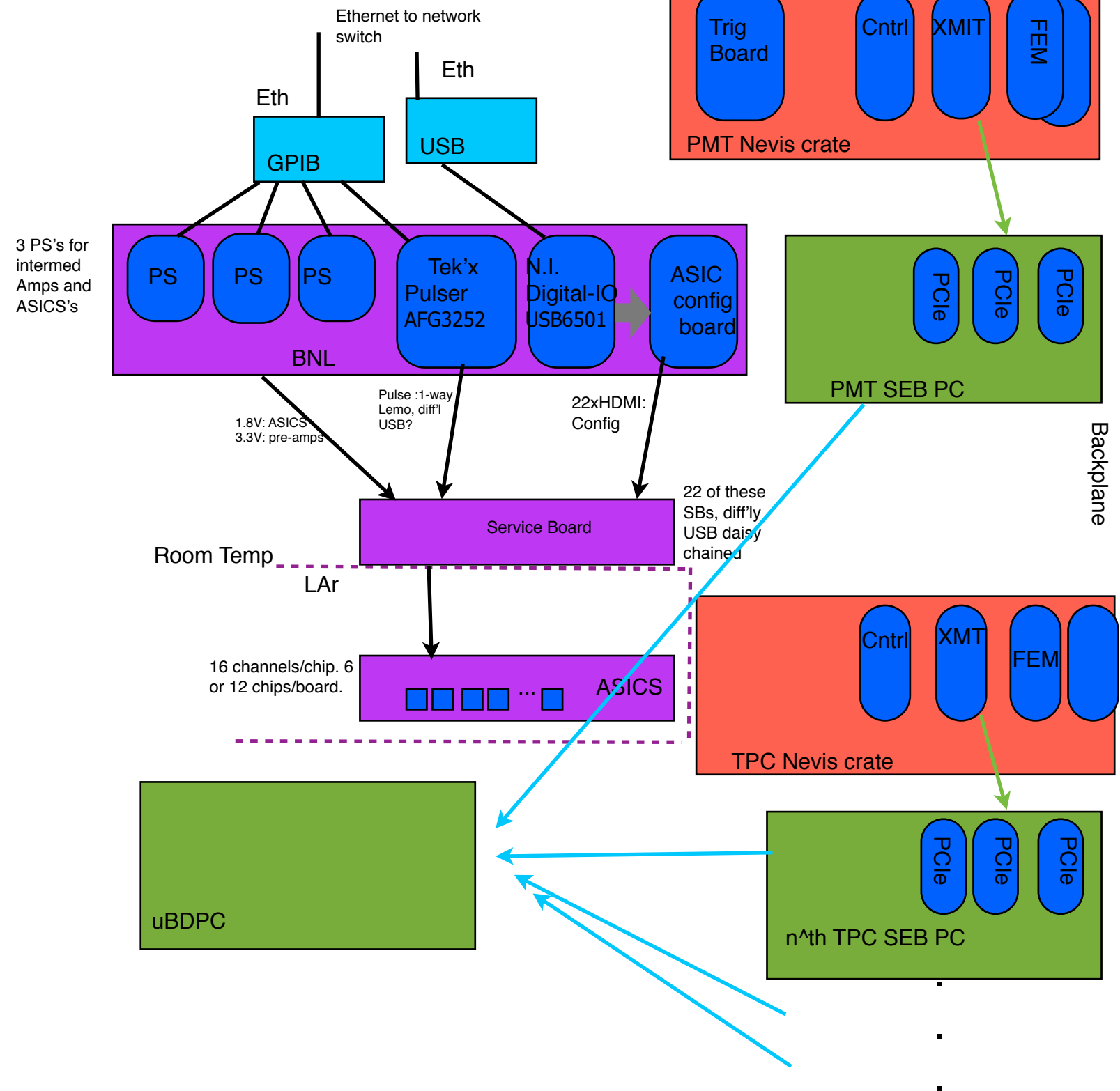
uBooNE Calibration



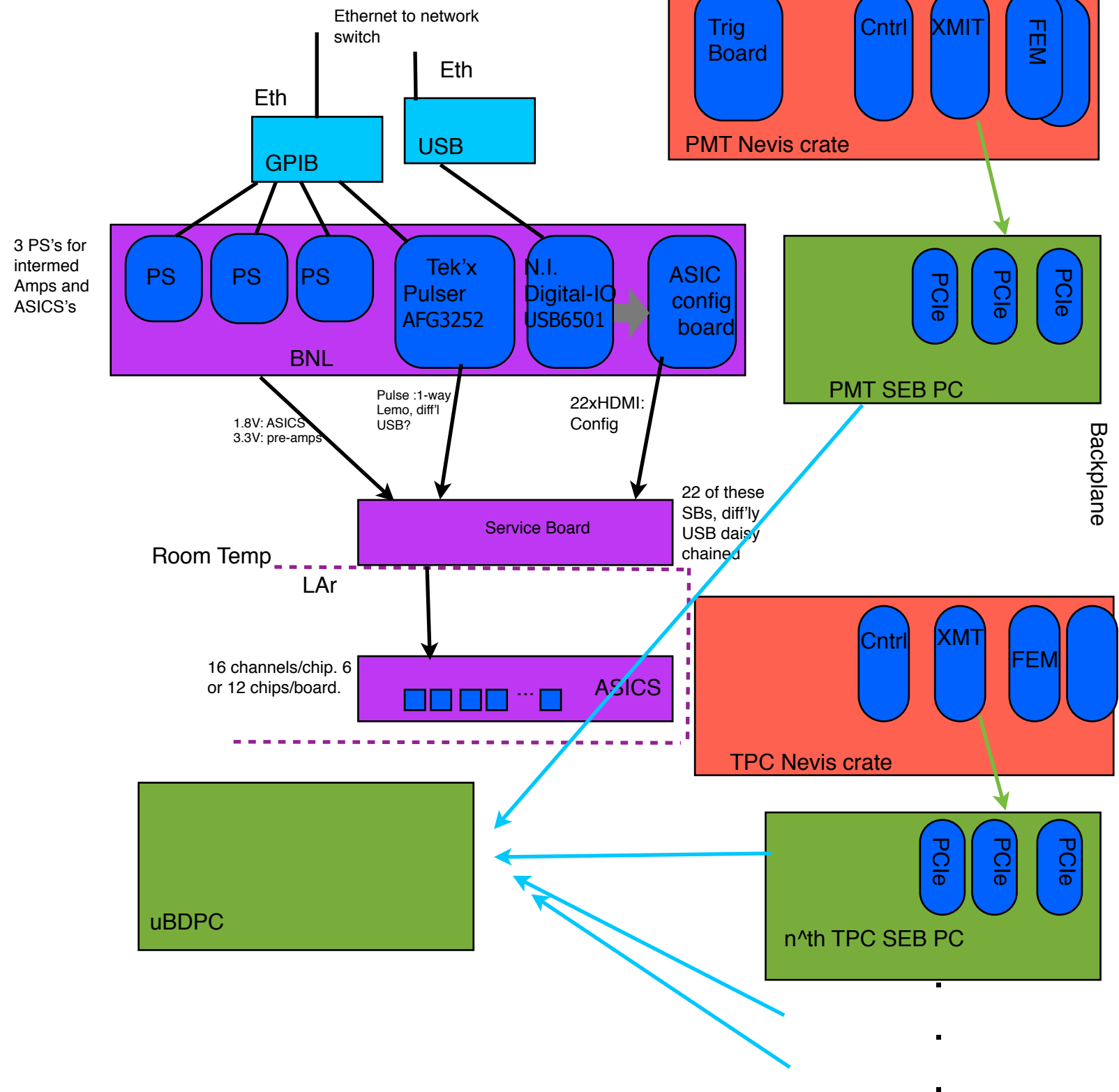
11.) setup XMIT PCIe
DMA on all SEBPCs
12-13.) PMTSEBPC
tells Control card to tell
Trigger Board to tell
Tektronix Pulser to fire
via a LEMO/BNC
cable.

Simultaneously, tell Trigger Board (via Cntrl Card) to set Calib Trigger bits. Perhaps also suppress all other triggers. This causes an event (3 x 1.6 msec frames) at all crates.

uBooNE Calibration



uBooNE Calibration



14.) SEBPCs reading status always, now see a triggered event.
15.) This causes a DMA from XMIT into all the SEBPCs' memory via fiber to the PCIe dedicated to the triggered data stream.

The SEBPCs tell Assembler running on uBDPC they have data. Assembler sucks up those 4.8 msec of data from everybody. Compares PMTSEBPC's trigger info -- event number and full trigger word -- to event numbers of TPC/PMTdata. Assembles event, writes it to disk.